

REMARKS:

Claims 1-7, 9-16, 18-25, and 27-30 are currently pending in the subject Application.

Claims 8, 17, and 26 have been previously canceled without *prejudice*.

Claims 1-7, 9-16, 18-25, and 27-30 stand rejected under 35 U.S.C. § 112, first and second paragraphs.

Claims 1-7, 9-16, 18-25, and 27 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,219,649 to Jameson (“*Jameson*”) in view of U.S. Patent Publication No. 20020049759 to Christensen (“*Christensen*”).

Claims 28-30 stand rejected under 35 U.S.C. § 103(a) over *Jameson* in view of *Christensen* (U.S. Patent Application Publication No.: 20020049759) and in further view of *Supply Chain Management: Strategy, Planning, and Operation*, Prentice Hall, October 2000, by *Chopra* et al. (“*Chopra*”).

Applicants note with thanks the Examiner’s response of 7 January 2009.

Applicants respectfully submit that all of Applicants arguments are without *prejudice* or *disclaimer*. In addition, Applicants have merely discussed example distinctions from the cited prior art. Other distinctions may exist, and as such, Applicants reserve the right to discuss these additional distinctions in a future Response or on Appeal, if appropriate. Applicants further respectfully submit that by not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements. The example distinctions discussed by Applicants are considered sufficient to overcome the Examiner’s rejections.

REJECTION UNDER 35 U.S.C. § 103(a):

Claims 1-7, 9-16, 18-25, and 27 stand rejected under 35 U.S.C. § 103(a) over *Jameson* in view of *Christensen*. Claims 28-30 stand rejected under 35 U.S.C. § 103(a) over *Jameson* in view of *Christensen*, in further view of *Chopra*.

Applicants respectfully submit that Claims 1-7, 9-16, 18-25, and 27-30 contain unique and novel limitations that are not taught, suggested, or even hinted at in *Jameson*, *Christensen* and *Chopra*, either individually or in combination. Thus, Applicants respectfully traverse the Examiner's obviousness rejection of Claims 1-7, 9-16, 18-25, and 27-30 under 35 U.S.C. § 103(a) over *Jameson*, *Christensen* and *Chopra*, individually or in combination.

The Proposed *Jameson-Christensen* Combination Fails to Disclose, Teach, or Suggest Various Limitations Recited in Applicants Claims

For example, with respect to amended independent Claim 1, this claim recites:

A computer-implemented method for solving a supply chain planning problem, comprising:

decomposition of the supply chain planning problem into a plurality of independent sub-problems, said supply chain planning problem comprising at least one of a demand forecasting planning problem, a service level planning problem, and a replenishment planning problem;

providing a plurality of distributed database partitions, each partition of said plurality of distributed database partitions associated with a respective independent sub-problem of said supply chain planning problem;

operating a plurality of processors, each processor of said plurality of processors coupled with a respective partition of said plurality of distributed database partitions;

forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items and associated with a respective independent sub-problem of said supply chain planning problem;

loading data into a plurality of distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each of said distributed sub-problem partitions; and

solving each of said plurality of said independent sub-problems by each processor of said plurality of processors coupled with said respective partition of said plurality of distributed database partitions, wherein each processor of said plurality of processors is operating in parallel. (Emphasis added).

(Emphasis added). In addition, *Jameson* and *Christensen*, individually or in combination, fail to disclose each and every element of independent Claims 9, 10, 18, 19, and 27.

Applicants respectfully submit that *Jameson* fails to disclose Claim 1 elements regarding "*decomposition of the supply chain planning problem into a plurality of independent sub-*

problems, said supply chain planning problem comprising at least one of a demand forecasting planning problem, a service level planning problem, and a replenishment planning problem.” In particular, the Examiner states:

decompositioning the supply chain planning problem into a plurality of independent sub-problems” (see *Jameson column 7 lines 45-54; where the allocation problem is divided in to simpler sub-problems. Resource allocation is a part of supply chain management.*), said supply chain planning problem comprising at least one of a demand forecasting planning problem (*col. 19, lines 1-45, uncertain future demand is a demand forecasting planning problem*), a service level planning problem (*col. 6, lines 46-61, meeting contractual obligations is a service level planning problem*), and a replenishment planning problem” (*col. 19, lines 1-45, determining capacity levels over time is a replenishment planning problem*),

(7 January 200 Final Office Action, pages 5-6). (Emphasis added). By contrast, the cited portion of *Jameson* on which the Examiner relies does not disclose “*decompositioning the supply chain planning problem into a plurality of independent sub-problems*,” as recited in Claim 1 but rather merely describes clustering to divide an allocation problem into simpler sub-problems. (Column 7, lines 45-54). (Emphasis added). In fact, Applicants respectfully direct the Examiner’s attention to Figure 22.2, on which the Examiner relies:

Several strategies are used in tandem to cope with the inherent NP-hardness of stochastic programming: clustering, line searching, statistical sampling, and unbiased approximation. Clustering is used to divide the *allocation problem* into simpler sub-problems, for which determining optimal allocations is computationally simpler and faster. Optimal allocations for sub-problems are used to define spaces for line-searches; line searches are used for optimizing allocations over ever-larger sub-problems.

(Column 7, lines 45-54). (Emphasis added). As noted above, the Examiner states that the “*allocation problem*” of *Jameson* is “divided in to simpler sub-problems,” that is the Examiner equates the “*supply chain planning problem*” recited in Claim 1 with the “*allocation problem*” disclosed in *Jameson*. (7 January 200 Final Office Action, pages 5-6). Applicants respectfully submit that this equation is inaccurate, that is the “*allocation problem*” as disclosed in *Jameson*, does not equate to the “*supply chain planning problem*” as recited in Claim 1 because, among other things, the “*supply chain planning problem*” as recited in Claim 1 requires “*at least one of a demand forecasting planning problem, a service level planning problem, and a replenishment planning problem.*” In addition to the foregoing, the “*allocation problem*” as disclosed in

Jameson, does not equate to the “*supply chain planning problem*” as recited in Claim 1 because, among other things, the “*supply chain planning problem*” as recited in Claim 1 is *decompositioned into a plurality of independent sub-problems*, not just merely divided into simpler sub-problems, as disclosed in *Jameson*.

Furthermore, as noted above, the Examiner states that “*uncertain future demand*” of *Jameson* is a “*demand forecasting planning problem*,” that is the Examiner equates the “*demand forecasting planning problem*” recited in Claim 1 with the “*uncertain future demand*” disclosed in *Jameson*. (7 January 200 Final Office Action, pages 5-6). Applicants respectfully submit that this equation is inaccurate, that is the “*uncertain future demand*” as disclosed in *Jameson*, does not equate to the “*demand forecasting planning problem*” as recited in Claim 1 because, among other things, the “*demand forecasting planning problem*” as recited in Claim 1 is *decompositioned into a plurality of independent sub-problems*, whereas, the “*uncertain future demand*” disclosed in *Jameson*, is clearly not decompositioned into *independent sub-problems* or even divided into simpler sub-problems.

In addition, it is recalled from the above-discussion, that the Examiner equates the “*supply chain planning problem*” recited in Claim 1 with the “*allocation problem*” disclosed in *Jameson*, however, Claim 1 requires the “*supply chain planning problem*” to be *decompositioned into a plurality of independent sub-problems* and that the “*supply chain planning problem*” comprises at least the “*demand forecasting planning problem*.” Accordingly, *Jameson* does not teach, suggest, or even hint that the “*allocation problem*” of *Jameson* comprises the “*uncertain future demand*” of *Jameson*. Stated another way, the “*uncertain future demand*” of *Jameson* is clearly not decompositioned into *independent sub-problems* or even divided into simpler sub-problems. Similar arguments apply to the Examiner’s equation of the “*service level planning problem*” recited in Claim 1 with “*meeting contractual obligations*” disclosed in *Jameson* and the “*replenishment planning problem*” recited in Claim 1 with “*determining capacity levels over time*” disclosed in *Jameson*. Applicants respectfully request the Examiner to verify the references to *Jameson*, to ensure that some mistake has not been made.

The Office Action Acknowledges that *Jameson* Fails to Disclose Various Limitations Recited in Applicants Claims

Applicants respectfully submit that the Office Action acknowledges, and Applicants agree, that *Jameson* fails to disclose various limitations recited in independent Claim 1. Specifically the Examiner acknowledges that:

Jameson fails to explicitly teach organizing the sub-problems in to partitions and imploring processors to execute the database partitions.

(7 January 200 Final Office Action, page 6). However, the Examiner asserts that the cited portions of *Christensen* disclose the acknowledged shortcomings in *Jameson*. Applicants respectfully traverse the Examiner's assertions regarding the subject matter disclosed in *Christensen*.

The Office Action Fails to Properly Establish a *Prima Facie* case of Obviousness According to the UPSTO Examination Guidelines

Applicants respectfully submit that the Office Action fails to properly establish a *prima facie* case of obviousness of Claims 1-7, 9-16, 18-25, and 27-30 over *Jameson*, *Christensen*, and *Chopra*, either individually or in combination. In particular, the Office Action fails to establish a *prima facie* case of obviousness based on the "Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*" (the "Guidelines").

As reiterated by the Supreme Court in *KSR International Co. v. Teleflex Inc.* (*KSR*), the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966)). Obviousness is a question of law based on underlying factual inquiries. These factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

(Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel. (383 U.S. 17–18, 148 USPQ 467 (1966)). As stated by the Supreme Court in *KSR*, “While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.” (*KSR*, 550 U.S. at __, 82 USPQ2d at 1391).

However, it is important to note that the Guidelines require that Office personnel “*ensure that the written record includes findings of fact* concerning the state of the art and the teachings of the references applied. (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). In addition, the Guidelines remind Office personnel that the “*factual findings made by Office personnel are the necessary underpinnings to establish obviousness.*” (*id.*). Further, “*Office personnel must provide an explanation to support an obviousness rejection* under 35 U.S.C. 103. (*id.*). In fact, “35 U.S.C. 132 requires that the applicant be notified of the reasons for the rejection of the claim so that he or she can decide how best to proceed” and “clearly setting forth findings of fact and the rationale(s) to support a rejection in an Office action leads to the prompt resolution of issues pertinent to patentability.” (*id.*).

With respect to the subject Application, the Office Action has not shown the *factual findings necessary to establish obviousness* or even *an explanation to support the obviousness rejection* of Claims 1-7, 9-16, 18-25, and 27-30 based on the proposed combination of *Jameson*, *Christensen*, and *Chopra*, either individually or in combination. The Office Action merely states that:

It would have been obvious, at the time of the invention, to one of ordinary skill in the to combine the features of ‘providing a plurality of distributed database partitions, each partition of said plurality of distributed database partitions associated with a respective independent data hunks of said supply chain planning problem,’ ‘operating a plurality of processors in said database, each processor of said plurality of processors associated with a respective partition of said plurality of distributed database partitions,’ ‘forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items,’ ‘loading data into a plurality of distributed database partitions, said data associated with said plurality of related items, and each of said distributed database partitions associated with a respective one of each said distributed sub-problem partitions’ taught by *Christensen* to *Jameson* in order to increase the performance of the system, which is a goal of *Christensen*.”

(7 January 200 Final Office Action, pages 7-8). Applicants respectfully disagree and respectfully submit that the Examiner's conclusory statement is not sufficient to establish the *factual findings necessary to establish obviousness* and is not a sufficient *explanation to support the obviousness rejection* based on the proposed combination of *Jameson* and *Christensen*. *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including the factual findings necessary to establish obviousness to "ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied.* (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines further provide guidance to Office personnel in "determining the scope and content of the prior art" such as, for example, "Office personnel must first obtain a thorough understanding of the invention disclosed and claimed in the application." (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)). The scope of the claimed invention must be clearly determined by giving the claims the "broadest reasonable interpretation consistent with the specification." (See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) and MPEP § 2111.). In addition, the Guidelines state that any "*obviousness rejection should include*, either explicitly or implicitly in view of the prior art applied, *an indication of the level of ordinary skill.*" (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). With respect to the subject Application, the Office Action has not provided *an indication of the level of ordinary skill*. *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including an indication of the level of ordinary skill, relied upon by the Examiner.* (Notice, 72 Fed. Reg. 57527 (Oct. 10, 2007)).

The Guidelines still further provide that once the *Graham* factual inquiries are resolved, Office personnel must determine whether the claimed invention would have been obvious to one of ordinary skill in the art. (*Id.*). For example, the Guidelines state that *Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.* (*Id.*). In addition, the Guidelines state that the proper analysis is *whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts.* (*Id.* and See 35 U.S.C. 103(a)).

With respect to the subject Application, the Office Action has not expressly resolved any of the *Graham* factual inquiries to determine whether Applicants invention would have been obvious to one of ordinary skill in the art. In addition, the Office Action fails to *explain whatsoever why the difference(s) between the proposed combination of Jameson and Christensen, either individually or in combination and Applicants claimed invention would have been obvious to one of ordinary skill in the art*. The Office Action merely states that “in order to increase the performance of the system, which is a goal of *Christensen*.” (7 January 200 Final Office Action, pages 7-8) Applicants respectfully disagree and further respectfully request clarification as to how this statement *explains why the difference(s) between the proposed combination of Jameson, Christensen, Chopra, and Applicants claimed invention would have been obvious to one of ordinary skill in the art*. Applicants further respectfully submit that the Examiner is using the subject Application as a template to formulate reconstructive hindsight, which constitutes impermissible use of hindsight under 35 U.S.C. § 103(a).

The Guidelines yet further state that the “key to supporting any rejection under 35 U.S.C. 103 is the *clear articulation of the reason(s) why the claimed invention would have been obvious*.” (Notice, 72 Fed. Reg. 57528 (Oct. 10, 2007)). In fact, the Supreme Court in *KSR* noted that “*the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit*.” (*id.*) The Court quoting *In re Kahn* (441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)), stated that ““[R]ejections on *obviousness cannot be sustained by mere conclusory statements*; instead, there *must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness*.’’’ (*KSR*, 550 U.S. at __, 82 USPQ2d at 1396). The Guidelines provide the following seven rationales:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other

market forces if the variations would have been predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Applicants respectfully submit that the *Office Action fails to provide any articulation, let alone, clear articulation of the reasons why Applicants claimed invention would have been obvious*. For example, the *Examiner has not adequately supported the selection and combination of Jameson, Christensen, and Chopra to render obvious Applicants claimed invention*. As clearly shown above, the Examiner's unsupported conclusory statements *do not adequately provide clear articulation of the reasons why Applicants claimed invention would have been obvious*. In addition, the Examiner's unsupported conclusory statement fails to meet any of the Guidelines' rationales to render obvious Applicants claimed invention. Thus, if the Examiner continues to maintain the obviousness rejection of Claims 1-7, 9-16, 18-25 and 27 based on the proposed combination of *Jameson and Christensen*, and the rejection of Claims 28-20 based upon the proposed combination of *Jameson, Christensen, and Chopra*, *Applicants respectfully request that the Examiner provide proper support for the obviousness rejection under 35 U.S.C. 103 as necessitated by the Guidelines, including a statement by the Examiner identifying which one of the seven rationales the Examiner is relying on and the proper analysis of that particular rationale, as required by the Guidelines*.

Applicants Claims are Patentable over the proposed Jameson-Christensen-Chopra Combination

Applicants respectfully submit that Claim 1 is considered patentably distinguishable over *Jameson and Christensen*. This being the case, Claims 9, 10, 18, 19, and 27 are also considered patentably distinguishable over *Jameson and Christensen*, for at least the reasons discussed above in connection with Claim 1.

Furthermore, with respect to dependent Claims 2-7, 11-16, 20-25, and 28-30: Claims 2-7 and 28 depend from Claim 1; Claims 11-16 and 29 depend from Claim 10; and Claims 20-25 and 30 depend from Claim 19. As mentioned above, each of Claims 1, 9, 10, 18, 19, and 27 are

considered patentably distinguishable over *Jameson*, *Christensen* and *Chopra*. Thus, dependent Claims 2-7, 11-16, 20-25, and 28-30 are considered to be in condition for allowance for at least the reason of depending from an allowable claim.

For at least the reasons set forth herein, Applicants respectfully submit that Claims 1-7, 9-16, 18-25, and 27-30 are not rendered obvious by *Jameson*, *Christensen* and *Chopra*. Applicants further respectfully submit that Claims 1-7, 9-16, 18-25, and 27-30 are in condition for allowance. Thus, Applicants respectfully request that the rejection of Claims 1-7, 9-16, 18-25, and 27-30 under 35 U.S.C. § 103(a) be reconsidered and that Claims 1-7, 9-16, 18-25, and 27-30 be allowed.

CONCLUSION:

In view of the foregoing remarks, this application is considered to be in condition for allowance, and early reconsideration and a Notice of Allowance are earnestly solicited.

Although Applicants believe no fees are deemed to be necessary, the undersigned hereby authorizes the Director to charge any additional fees which may be required, or credit any overpayments, to **Deposit Account No. 500777**. If an extension of time is necessary for allowing this Response to be timely filed, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) to the extent necessary. Any fee required for such Petition for Extension of Time should be charged to **Deposit Account No. 500777**.

Please link this application to Customer No. 53184 so that its status may be checked via the PAIR System.

Respectfully submitted,

7 March 2009
Date

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